

BEng (Hons) Scheme in Product and Industrial Engineering

產品及工業工程 (榮譽) 工學士組合課程

- **BEng (Hons) in Product Engineering with Marketing (PEM)**
產品工程兼市場學 (榮譽) 工學士
- **BEng (Hons) in Industrial and Systems Engineering (ISE)**
工業及系統工程學 (榮譽) 工學士

(JUPAS Programme Code: JS3557)

Scheme Aim

Product and industrial engineering (PIE) has been driving industries and service sectors to perform smarter, faster, and better. The PIE scheme aims to provide students with knowledge and skills in product and industrial engineering, including engineering economics, quality engineering, engineering science and mathematics, engineering communication and information technology, so as to enable them to have a solid foundation and flexibility to pursue a bachelor's degree, either in product engineering with marketing or industrial and systems engineering, after the first and a half year of study.

Product Engineering with Marketing (PEM)

Technology advancement and globalization continue to create market opportunities for new products and services. Many Hong Kong companies gain advantages in the original design manufacturing and original brand manufacturing business because of our efficient communication infrastructure and excellence in marketing. This leads to a substantial demand for professionals to design and market new products, such as smart home appliances, healthcare devices, and other high-end consumer products.

Product Engineering with Marketing (PEM) addresses the identification of market needs, generation of creative ideas, realization of product concepts, and the growth of customer bases. Product and Marketing Engineers analyze the market situation and competitive environment, identifying market needs and converting them into new products that satisfy customers.

PEM Programme Aim

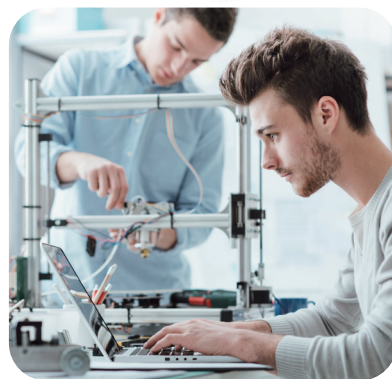
The PEM programme aims to provide students with comprehensive education and professional training at honours degree level that prepares professionals who are competent in product design and marketing.



Industrial and Systems Engineering (ISE)

Industrial and Systems Engineering (ISE) is a professional discipline that focuses on developing and implementing optimal solutions from a system-level perspective, and bridges the gap between management and operations. It has a strong focus on operational processes, which forms the backbone of all industrial and service organizations. This involves people, technology, quality, finance, information, and environmental issues. The main role of Industrial and Systems Engineers is to organize and streamline operational procedures, increase efficiency, reduce operating costs, increase customer satisfaction, enhance safety and improve overall system performance in diverse areas such as factories, Disneyland queues, rapid prototyping, etc. The ultimate objective is to provide leadership in the design of integrated industrial and commercial systems for the advancement and well-being of the community.

ISE is different from other traditional engineering disciplines whereby knowledge and skills are applied to specific areas. In contrast, ISE provides graduates with many more flexible career paths so as to be able to work in a variety of organizations in both the industrial and commercial sectors.



ISE Programme Aim

The ISE programme aims to provide students with comprehensive education and professional training at honours degree level for preparing engineers and professionals who are competent in the design, improvement and installation of integrated systems of people, technology, information and economics for the best of both worlds: engineering and business, for optimization in cost, efficiency, effectiveness, quality, safety and reliability.

Professional Recognition

Both programmes have been granted full accreditation by the Hong Kong Institution of Engineers (HKIE) as a professional engineering degree programme recognised by other Washington Accord signatories.

The Washington Accord is an international agreement between bodies responsible for accrediting engineering degree programmes. Currently, it has 20 signatories, including the United States, the United Kingdom, Australia, Canada, Japan, Korea, Singapore, Malaysia and New Zealand.

Career Prospects

Our fresh graduates work in well-established organizations, such as Mattel, Parsons Brinckerhoff, BMW, Gibson Innovations, Daikin, Cathay Pacific, Hong Kong Gas, Hong Kong Productivity Council, Johnson Electric, Hong Kong Aircraft Engineering Company Ltd (HAECO), Hang Seng Bank, SAE Magnetics, P&G, Sun Motor Technology Group, VTech Co. Ltd, Dah Chong Hong Ltd, and U.S. Dust Free Manufacturing Ltd. Some typical examples of job positions are:

- Product Engineer
- Project Engineer
- CAD Engineer
- Marketing Engineer
- Business Development Engineer
- Industrial Engineer
- Technical Consultant
- Sales Engineer
- Marketing Executive
- Systems Engineer
- Quality Engineer
- Management Trainee
- Business Process Analyst

Some of our PEM/ISE graduates pursue Master or Doctoral degree programmes in local or overseas universities based on their interest and career aspiration.

PEM graduates



Ms WONG Ka Lai Vox

Senior Product and Project Management Executive
GP Electronics (HK) Limited

My current job is fully in line with my learning experience in PEM which equipped me with a comprehensive mindset of the product creation process, from market research, ideation, product definition, product development, to production. The programme also provided me with lots of chances to practice project management skills, including project planning, resource allocation, team working, etc. All of these experiences and skills have significantly facilitated my progress in this career path!



Mr Li Tung Yat Olaf

Marketing Engineer
Cozy Life Ltd.

PEM has equipped me with a solid foundation of product engineering knowledge and a collection of marketing tools and soft skills, enabling me, as a marketing engineer, to perform engineering project management, system innovation and problem solving, product marketing, etc. The skillset also assists my committee service in the IET, where I grow my network of engineering friends. Thanks, PEM!



Mr Lam Ho Lok Cola

Consultant
Hong Kong Productivity Council

I am the Team Head of the Intelligent Robotics System. Our team delivers projects related to warehouse management systems, robotic applications and intelligent automation solutions. The PEM programme equipped me with comprehensive knowledge about product development and manufacturing technology. The treasurable things in the PEM program are the practical experience in the Industrial Center and learning how to learn. It helped me to be well prepared for my career development.



Ms WONG Yuen Ching Isabella

Assistant General Manager
Magic Moments

The PEM programme has equipped me with in-depth product development, engineering, and marketing knowledge that facilitated my career development. Skills like project management, B2B selling & marketing, and quality management I learnt from the programme are essential to the accomplishment in my job. I am grateful for the valuable experiences that the PEM programme has given me.

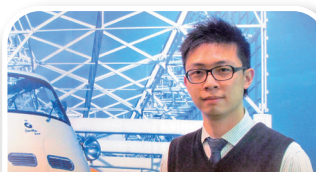
ISE graduates



Mr Tai Arnold

Pilot (Senior First Officer)
Cathay Pacific Airways

My study in ISE was very enjoyable and knowledgeable. The programme equipped me with a logical mindset which, later in time, brought me advantages in the demanding flying training environment. It also helped me brush up my standards in Maths and Physics during my study.



Mr Wu Kwok Tung Gordon

Assistant Manager (Service)
BMW Concessionaires (Hong Kong) Limited

I am responsible for the Statistical Analysis of Workshop Productivity and Efficiency, Work Process Improvement, and Parts Inventory Control. The programme offered me an invaluable opportunity to learn and understand the concept of operation management and inventory management, together with the application of various statistical tools.



Mr Yuen Yat Chung Bill

Engineer
The Hong Kong and China Gas Company Limited (Towngas)

My study was challenging yet fulfilling. ISE provided me the knowledge in many aspects such as process optimization, supply chain management, as well as system thinking and an analytical mindset. These have been huge benefits in my career in Towngas. Systems development, process optimization and business analysis are my primary responsibilities at work in order to achieve the desired deliverables with the minimum effort and resources.



Ms Siu Ying Ying Katherine

Engineer (II)
WSP/ Parsons Brinckerhoff

The programme equipped me with the necessary project management skills. The experience of using engineering tools and software was also beneficial. Since the programme is accredited by HKIE, I have completed the Scheme A training which is a fast-track programme to becoming a chartered engineer.

Placement Opportunities and Industry-related Final Year Projects

Local and overseas placement opportunities are provided to our students for broadening their horizons, and to apply and practice what they have learnt from their academic studies. They gain valuable experience and build career networks by working in well-established organizations such as Dragonair, Chiaphua, MTR Corporation, Hong Kong Airport Authority, and SAE Magnetics. In the final year, graduating students will be guided to complete a capstone project for applying and consolidating their generic competencies and professional knowledge learnt from the programme. In addition, many of these projects are industry-related. All these features sharpen our graduates' competitive edge in job hunting by providing them with contemporary knowledge and trends about the market and industry.



ISE Entry Scholarships for Outstanding HKDSE Student

To recognise the outstanding academic performance of HKDSE students, Entry Scholarships will be granted to eligible HKDSE students admitted to the Scheme. More details can be found at <https://www.polyu.edu.hk/ise/scholarships>.



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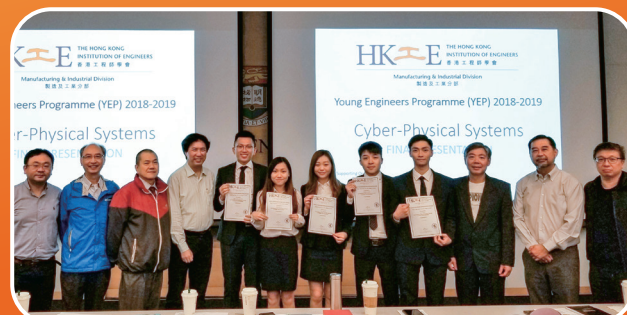
Ms Jiaxiao Cai received the Gold Prize in the HKEIA Innovation & Technology Project Competition for Students of Electronic Engineering or Related Engineering



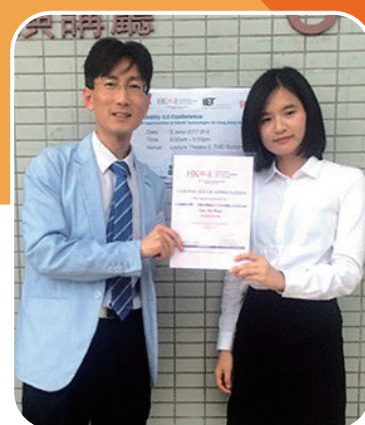
Mr Davon Hui received the ASM Technology Award 2016 and ASM Pacific Technology Scholarship



Mr Jason Siu was awarded as the First Runner-Up in IET Present Around the World Competition 2015/2016, Champion in IET Young Professionals Exhibition & Competition 2016, and Champion in HKIE Manufacturing & Industrial Division Student Project Competition 2015/2016



A team of students from the Department of Industrial and Systems Engineering won the second place award in the HKIE Young Engineers Programme 2018/2019 – Manufacturing & Industrial Division



Ms Jiaxiao Cai was the Champion of the HKIE Manufacturing & Industrial Division Student Project Competition 2016/17

Entrance Requirements

General Entrance Requirements on DSE Elective Subjects

Applicants must satisfy the University's General Entrance Requirements of Four core and Two elective subjects with

- Level 3 in English Language and Chinese Language
- Level 2 in Mathematics
- Attained in Citizenship and Social Development
- Level 3 in two elective subjects (M1/M2 can be considered)

There is no compulsory subject requirement. Students may be required to take an extra subject in Physics depending on their entry qualifications to meet the graduation requirement.

Subjects with the Highest Weighting

Preferred subjects with the highest weighting for admission score calculation are:

- English Language
- Mathematics

The following Applied Learning subjects are recognized for meeting the University entrance requirement and admission score calculation:

- Accounting for E-Business
- Accounting in Practice
- AI and Robotics
- Applied Business Research
- Applied Psychology
- Automotive Technology
- Aviation Studies
- Data Application for Business / Business Data Analysis
- Computer Forensic Technology
- Computer Game and Animation Design
- Creative Advertising
- Display and Jewellery Design
- Electrical and Energy Engineering
- Entrepreneurship for SME
- Health Care Practice
- Innovation Product Design
- Interior Design
- Internet of Everything Application
- Jewellery and Accessories Design
- Jewellery Arts and Design
- Jewellery Design in Digital Age
- Law Enforcement in Hong Kong
- Marketing and Online Promotion
- Practical Psychology
- Rehabilitation Care Practice
- Tech Basics

Our PEM graduate, Ms Cadence Law Wing Ting, received the Merit Award of Young Woman Engineer 2022 presented by The Institution of Engineering and Technology (IET) Hong Kong for her contributions to the field of engineering.



Ms Sara Ting received the Peer Recognition Award and Project Nomination Award of ASM Technology Award 2017



Mr Raymond Wu won Third Prize in Challenge Cup, National Competition - Hong Kong Regional Final, Hong Kong University Student Innovation and Entrepreneurship Competition 2017



Ms Tse Suet Yi, a graduate of the BEng (Hons) Product Engineering with Marketing programme, received the Champion Award in the "Industrial and Systems Engineering Management Innovation Project Competition 2023", which was organized by the Institute of Industrial and Systems Engineers - Hong Kong



Mr Wing Hong Lee and Mr Wenqiang Li won the 2nd runner up in the Industrial System Engineering Management Innovation Project Competition 2020

Students under the BEng (Hons) Scheme in Product and Industrial Engineering 產品及工業工程 (榮譽) 工學士組合課程 are entirely free to choose to study BEng (Hons) in Product Engineering with Marketing 產品工程兼市場學 (榮譽) 工學士 or BEng (Hons) in Industrial and Systems Engineering 工業及系統工程學 (榮譽) 工學士 in Year 2. This provides flexibility to our students to make choices based on their interest after having foundation knowledge in Product and Industrial Engineering.

Enquiries

Curriculum Design

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Admission and General Information

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Programme Website



<https://www.polyu.edu.hk/ise/pie>